

JUN 29 2007

2002P16242US01; 60,427-605

IN THE CLAIMS

1. (Currently Amended) A component interface to form a laser weld joint comprising:

a first component portion defining a first laser weld surface and including a first taper lock surface opposite from said first laser weld surface, said first laser weld surface comprising a first tapered weld surface; and

a second component portion defining a second laser weld surface and including a second taper lock surface opposite from said second laser weld surface, said second laser weld surface comprising a second tapered weld surface, wherein said first and second tapered weld surfaces define weld taper angles that are different from each other, and the first and second taper lock surfaces define a taper lock angle that is at least twice that of said weld taper angles of both said first and second tapered weld surfaces, wherein said first and second taper lock surfaces cooperate with each other to force said first and second laser weld surfaces into abutting engagement at a predetermined pressure to provide a laser weld joint area, wherein when a laser beam is directed to said laser weld joint area, ~~to permanently attach~~ said first and second component portions are permanently attached together, and wherein said first and second taper lock surfaces lock said first and second tapered weld surfaces together and maintain said predetermined pressure during laser welding.

2. (Currently Amended) A component interface to form laser weld joint as set forth in claim 1 wherein said first component portion comprises an upper shell for an air induction component and said second component portion comprises a lower shell for the air induction component, said upper and lower shells together forming the air induction component that is mountable to a vehicle engine.

3. (Currently Amended) A component interface to form laser weld joint as set forth in claim 1 wherein said predetermined pressure is at least 190 pounds per square inch (psi).

4. (Currently Amended) A component interface to form laser weld joint as set forth in claim 1 wherein one of said first and second component portions is comprised of a laser-transparent

2002P16242US01; 60,427-605

material and the other of said first and second component portions is comprised of ~~an~~ a laser absorbing material.

5. (Currently Amended) A component interface to form laser weld joint as set forth in claim 1 wherein at least one of said first and second taper lock surfaces defines a taper angle of at least thirty degrees.

6-7. (Cancelled)

8. (Currently Amended) A component interface to form laser weld joint as set forth in claim 1 wherein said taper lock angle is at least thirty-six degrees and wherein said weld taper angle for said first tapered weld surface is at least fourteen degrees and said weld taper angle for said second tapered weld surface is at least twelve degrees.

9. (Currently Amended) An air induction component assembly comprising:
a first shell made from a laser-transparent material defining a first laser weld surface and including a first taper locking surface opposite from said first laser weld surface;
a second shell made from ~~an~~ a laser absorbing material defining a second laser weld surface and including a second taper locking surface opposite from said second laser weld surface wherein said first laser weld surface comprises a first tapered surface defining a first angle and said second laser weld surface comprises a second tapered surface defining a second angle different than said first angle; and
a laser weld joint area formed at said first and second laser weld surfaces to permanently attach said first shell to said second shell wherein said first and second taper locking surfaces cooperate with each other to lock said first and second laser weld surfaces into abutting engagement at a predetermined pressure during a laser welding process.

10. (Previously Presented) An air induction component assembly as set forth in claim 9 wherein the predetermined pressure is at least 190 pounds per square inch (psi).

2002P16242US01; 60,427-605

11. (Cancelled)

12. (Previously Presented) An air induction component assembly as set forth in claim 9 wherein a laser beam is applied generally perpendicular to at least one of said first and second tapered surfaces.

13. (Previously Presented) An air induction component assembly as set forth in claim 9 wherein at least one of said first and second taper locking surfaces defines a taper angle that is at least twice that of both said first and second angles.

14-20. (Cancelled)

21. (Currently Amended) A component interface to form laser weld joint as set forth in claim 1 wherein said first component portion extends to a distal tip that is spaced apart from said second component portion to form a gap when said first and second tapered weld surfaces are locked together.

22. (Currently Amended) A component interface to form laser weld joint as set forth in claim 1 where said first component portion includes a flat that transitions from said first tapered weld surface to said first taper lock surface and wherein said second component includes a curved surface that transitions from said second tapered weld surface to said second taper lock surface.

23. (~~Currently Amended~~~~Previously Presented~~) ~~An air induction component assembly as set forth in claim 9~~ An air induction component assembly comprising:
a first shell made from a laser-transparent material defining a first laser weld surface and including a first taper locking surface opposite from said first laser weld surface wherein said first shell includes a first wall extension having an inner wall surface and an outer wall surface,

2002P16242US01; 60,427-605

said first wall extension extending from a first base end to a first distal end with said first tapered weld surface and said first taper locking surface being formed on said first wall extension;

a second shell made from an absorbing material defining a second laser weld surface and including a second taper locking surface opposite from said second laser weld surface wherein said first laser weld surface comprises a first tapered surface defining a first angle and said second laser weld surface comprises a second tapered surface defining a second angle different than said first angle, and wherein said second shell includes a second wall extension having an inner wall surface and an outer wall surface, said second wall extension extending from a second base end to a second distal end with said second tapered weld surface and said second taper locking surface being formed on said second wall extension, and wherein said first and said second wall extensions overlap each other such that said first and said second taper locking surfaces directly abut each other; and

a laser weld joint area formed at said first and second laser weld surfaces to permanently attach said first shell to said second shell wherein said first and second taper locking surfaces cooperate with each other to lock said first and second laser weld surfaces into abutting engagement at a predetermined pressure during a laser welding process.

24. (Previously Presented) An air induction component assembly as set forth in claim 23 wherein said first tapered weld surface tapers to a flat surface formed at said first distal end, said flat surface transitioning from said first tapered weld surface to said first taper locking surface.

25. (Previously Presented) An air induction component assembly as set forth in claim 24 including a first ledge surface transitioning from said inner wall surface of said first wall extension to said first tapered weld surface, and a second ledge surface transitioning from said outer wall surface of said first wall extension to said first taper locking surface.

26. (Previously Presented) An air induction component assembly as set forth in claim 25 wherein said second tapered weld surface tapers to a curved surface formed near said second

2002P16242US01; 60,427-605

base end, said curved surface transitioning from said second tapered weld surface to said second taper locking surface.

27. (Previously Presented) An air induction component assembly as set forth in claim 26 including a third ledge surface transitioning from said inner wall of said second wall extension to said second tapered weld surface, and a fourth ledge surface transitioning from said outer wall surface of said second wall extension to said second taper locking surface.

28. (Previously Presented) An air induction component assembly as set forth in claim 27 wherein said first and third ledge surfaces are spaced apart from each other to form a first gap when said first and second laser weld surfaces are locked into abutting engagement by said first and second tapered locking surfaces.

29. (Previously Presented) An air induction component assembly as set forth in claim 28 wherein said second and fourth ledge surfaces are in direct contact with each other when said first and second laser weld surfaces are locked into abutting engagement by said first and second tapered locking surfaces.

30. (Previously Presented) An air induction component assembly as set forth in claim 28 wherein said flat surface is spaced apart from said curved surface to form a second gap when said first and second laser weld surfaces are locked into abutting engagement by said first and second tapered locking surfaces.

31. (New) An air induction component assembly as set forth in claim 9 wherein said first shell includes a first transition surface that transitions directly from said first laser weld surface to said first taper locking surface, and wherein said second shell includes a second transition surface that transitions directly from said second laser weld surface to said second taper locking surface.

2002P16242US01; 60,427-605

32. (New) An air induction component assembly as set forth in claim 31 wherein said first transition surface includes a flat segment and said second transition surface includes a curved segment that directly faces said flat segment.